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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,724	10/07/2003	Gary Johnston	WEAT/0487	8287

36735 7590 04/04/2005

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EXAMINER


STEPHENSON, DANIEL P

ART UNIT	PAPER NUMBER
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3672

DATE MAILED: 04/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

 Office Action Summary	Application No.		Applicant(s)	
	10/680,724		JOHNSTON ET AL.	
	Examiner		Art Unit	
	Daniel P Stephenson		3672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/11/04, 3/8/04, 2/14/05</u> | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 10, 14, 33, 37 and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Simpson '532. Simpson '532 (Figs. 2 and 20) discloses an expander tool (304) for use in a wellbore. The expander tool has a body (102) having at least one recess (114) formed therein. There is an expansion assembly disposable in the at least one recess. The expansion assembly has a piston (120) that is outwardly extendable from the body in response to a radially outward force and a roller (116) rotationally disposed on a shaft. The roller and the shaft are constructed and arranged on the piston at an angle relative to the longitudinal axis of the expander tool. The recess that holds the piston is also at this angle, which is skewed from the longitudinal. It is inferred from the drawings that this angle is at least 10 degrees from the longitudinal axis and the centerline of the expander tool. There is a bearing body (118) adjacent to the roller on either end of the roller. The outer ends of the piston have a portion that is substantial enough to prevent the piston from tipping in the recess.

3. Claims 1, 2, 10, 11 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Clark '891. Clark '891 (Figs. 1, 3 and 4) discloses an expander tool for use in a wellbore. The expander tool has a body (30) having at least one recess (34) formed therein. There is an expansion assembly disposable in the at least one recess. The expansion assembly has a piston (40) that is outwardly extendable from the body in response to a radially outward force and a

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roller (35) rotationally disposed on a shaft (37). The roller and the shaft are constructed and arranged on the piston at an angle relative to the longitudinal axis of the expander tool. It is inferred from the drawings that this angle is at least 10 degrees from the longitudinal axis and the centerline of the expander tool. In addition, it is also inferred that the roller creates an angle with the centerline of at least 20 degrees. The outer ends of the piston have a portion that is substantial enough to prevent the piston from tipping in the recess.

4. Claims 1, 2, 12-14, 37 and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Dixon. Dixon (Figs. 2, 5, 11 and 12) discloses an expander tool for use in a wellbore. The expander tool has a body (1) having at least one recess (4) formed therein. There is an expansion assembly disposable in the at least one recess. The expansion assembly has a piston (9) that is outwardly extendable from the body in response to a radially outward force and a roller (8) rotationally disposed on a shaft (80). The roller and the shaft are constructed and arranged on the piston at an angle relative to the longitudinal axis of the expander tool. It is inferred from the drawings that this angle is at least 10 degrees from the longitudinal axis and the centerline of the expander tool. In addition, it is also inferred that the roller creates an angle with the centerline of at least 20 degrees. The outer end of the piston has a portion that is substantial enough to prevent the piston from tipping in the recess. There is an additional roller (5) adjacent to the first roller. This roller has a different diameter than the first roller and, therefore, has a different rate of rotation. The recess along with the assembly is at an angle, which is skewed from the longitudinal.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4, 5, 15-17, 19, 29, 30, 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clark '891 in view of Simpson '532 and Clark '630. Clark '891 shows all the limitations of the claimed invention, except, it does not disclose that there are bearings on either side of the shaft. Simpson '532 discloses placing bearings (118) that are integral ends of the piston and stationary on either side of the shaft of a roller expander. It would have been obvious to one of ordinary skill in the art at the time the invention was made to attach the bearings of Simpson '532 with the piston of Clark '891. This would be done to provide wear resistance to the roller as taught by Simpson '532.

Clark '891 in view of Simpson '532 shows all the limitations of the claimed invention, except, it does not disclose that there is a bearing portion includes a bearing portion between the rolling body and the piston that rotates with the piston. Clark '630 (Fig. 1) discloses a thrust washer that is placed into a recess for the roller along with the roller. In using the roller the thrust washer will rotate with the roller. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the thrust washer of Clark '630 with the apparatus of Clark '891 in view of Simpson '532. This would be done to provide further wear protection as would be cost effective and lessen the need to replace rollers.

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7. Claims 6-9, 18, 31, 32 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clark '891 in view of Simpson '532 and Clark '630 as applied to claims 5, 15, 30 and 35 above, and further in view of the pre-grant publication '769 to Whang. Clark '891 in view of Simpson '532 and Clark '630 shows all the limitations of the claimed invention, except, it does not disclose that there is a helical groove formed on the bearing body to provide for the ingress of fluid so that there is a fluid cushion between the stationary bearing body and the rotating bearing. Whang '769 discloses a thrust bearing with helical (58) grooves that allow the ingress of fluid so that there is a lubricating cushion between the thrust bearing and what it is next to. It would have been obvious to one of ordinary skill in the art at the time the invention was made to place the grooves of Whang '769 on the thrust bearing of Clark '891 in view of Simpson '532 and Clark '630. This would be done to preserve the thrust bearing as taught by Whang '769.

8. Claims 12, 13, 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clark '891 in view of the WIPO document '728 to Simpson et al. Clark '891 shows all the limitations of the claimed invention, except, it does not disclose that there is a plurality of rollers disposed on the shaft with differing diameters and different rates of rotation. WIPO '728 (Fig. 8 and page 19 line 31- page 20 line 2) discloses a roller in which there is a plurality of rollers (630) at different diameters and different rates of rotation. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the separate rollers as disclosed in WIPO '728 in the apparatus of Clark '891. This would be done to prevent slipping as taught by WIPO '728.

9. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clark '891 in view of WIPO '728 as applied to claim 20 above, and further in view of Simpson '532 and Clark

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'630. Clark '891 in view of WIPO '728 shows all the limitations of the claimed invention, except, it does not disclose it does not discloses that there are bearings on either side of the shaft. Simpson '532 discloses placing bearings (118) that are integral ends of the piston and stationary on either side of the shaft of a roller expander. It would have been obvious to one of ordinary skill in the art at the time the invention was made to attach the bearings of Simpson '532 with the piston of Clark '891 in view of WIPO '728. This would be done to provide wear resistance to the roller as taught by Simpson '532.

Clark '891 in view of WIPO '728 and Simpson '532 shows all the limitations of the claimed invention, except, it does not disclose that there is a bearing portion includes a bearing portion between the rolling body and the piston that rotates with the piston. Clark '630 (Fig. 1) discloses a thrust washer that is placed into a recess for the roller along with the roller. In using the roller the thrust washer will rotate with the roller. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the thrust washer of Clark '630 with the apparatus of Clark '891 in view of WIPO '728 and Simpson '532. This would be done to provide further wear protection as would be cost effective and lessen the need to replace rollers.

10. Claims 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clark '891 in view of WIPO '728, Simpson '532 and Clark '630 as applied to claim 24 above, and further in view of Whang '769. Clark '891 in view of WIPO '728, Simpson '532 and Clark '630 shows all the limitations of the claimed invention, except, it does not disclose that there is a helical groove formed on the bearing body to provide for the ingress of fluid so that there is a fluid cushion between the stationary bearing body and the rotating bearing. Whang '769 discloses a thrust

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bearing with helical (58) grooves that allow the ingress of fluid so that there is a lubricating cushion between the thrust bearing and what it is next to. It would have been obvious to one of ordinary skill in the art at the time the invention was made to place the grooves of Whang '769 on the thrust bearing of Clark '891 in view of WIPO '728, Simpson '532 and Clark '630. This would be done to preserve the thrust bearing as taught by Whang '769.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Key et al., Duda, Bergey, Troyanski and the pre-grant publications '698 and '630 both to Simpson et al. all show similar elements to those of the present invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel P Stephenson whose telephone number is (703) 605-4969 until 3/31/05 at which time the number will be (571) 272-7035. The examiner can normally be reached on 8:30 - 5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J. Bagnell can be reached on (703) 308-2151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



David Bagnell
Supervisory Patent Examiner
Art Unit 3672

DPS *PPS*